

SECTION 6: REGULATORY DEVELOPMENT AND RATIONALE

In this section, the methodology used by EPA to develop regulatory options for the construction and land development industry is described. Following the June 2002 proposal, EPA held a public comment period that ended on December 23, 2002. A number of issues were raised through comments that prompted several changes in EPA's analyses as well as development of a revised regulatory option (Option 4). The complete comment response document can be found in the public docket. EPA also refined its costing, environmental assessment and economic analyses.

Consideration of all of these references, as well as other information, led to EPA deciding not to promulgate final effluent limitations guidelines. The following section discusses the regulatory options evaluated for the final action. Costs of regulatory options are discussed in Section 7 of this document and a description of the environmental benefits estimation is presented in Section 8. Industry financial analyses can be found in the document "Economic Analysis for Final Action for Effluent Guidelines and Standards for the Construction and Development Category," EPA-821-B-04-002.

6.1 REGULATORY OPTIONS FOR FINAL ACTION

EPA considered a series of regulatory options. These options were designed to control the discharge of sediment, storm water and other pollutants from sites when construction is taking place. EPA considered a range of options that incorporate varying levels of management and various control strategies.

The following discussion presents various options that EPA considered.

6.1.1 OPTION 1 - INSPECTION AND CERTIFICATION

Option 1 would establish a series of site inspection and certification provisions as minimum requirements for all construction sites subject to the NPDES storm water regulations. The permittee is required to conduct periodic inspections and provide certifications as to certain activities (such as SWPPP preparation, BMP installation, periodic maintenance, etc.). These inspections and certifications are to be performed by a qualified professional, such as a registered professional engineer or person trained in erosion and sediment control. The permittee may provide self-certifications if qualified.

A summary of the inspection and certification provisions considered under this option are:

Inspections

A. Inspections must be conducted in accordance with one of the two schedules listed below. You must specify in your SWPPP which schedule you will be following.

1. At least once every 7 calendar days, OR

2. At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
- B. Inspection frequency may be reduced to at least once every month if:
1. The entire site is temporarily stabilized,
 2. Runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or the ground is frozen), or
 3. Construction is occurring during seasonal arid periods in arid areas and semi-arid areas.
- C. A waiver of the inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following requirements are met:
1. The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month);
 2. Land disturbance activities have been suspended; and
 3. The beginning and ending dates of the waiver period are documented in the SWPPP.
- D. Inspections must be conducted by qualified personnel (provided by the operator or cooperatively by multiple operators). “Qualified personnel” means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.
- E. Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Sedimentation and erosion control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- F. Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may limit the access of inspection personnel to the areas described in Subpart 3.10.E above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected on the

same frequencies as other construction projects, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described above. The conditions of the controls along each inspected 0.25 mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile segment to either the end of the next 0.25 mile inspected segment, or to the end of the project, whichever occurs first.

G. For each inspection required above, you must complete an inspection report. At a minimum, the inspection report must include:

1. The inspection date;
2. Names, titles, and qualifications of personnel making the inspection;
3. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
4. Weather information and a description of any discharges occurring at the time of the inspection;
5. Location(s) of discharges of sediment or other pollutants from the site;
6. Location(s) of BMPs that need to be maintained;
7. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
8. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
9. Corrective action required including any changes to the SWPPP necessary and implementation dates.
10. On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
11. Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;

12. Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
 13. Inspect all sediment control practices and note the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example 10 percent, 20 percent, 50 percent, etc.). Record all sediment control practices in the site log book that have sediment accumulation of 50 percent or more; and
 14. Inspect all erosion and sediment control BMPs and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document in the site log book any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
- H. Prior to filing of the Notice of Termination or the end of permit term, a final site erosion and sediment control inspection shall be conducted by the operator or designated agent. The inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

A record of each inspection and of any actions taken in accordance with this Part must be retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the construction project or site is in compliance with the SWPPP and all applicable permit conditions.

Site Log Book/Certification

The operator shall maintain a record of site activities in a site log book, as part of the SWPPP. The site log book shall be maintained as follows:

- A. A copy of the site log book shall be maintained on site and be made available to the permitting authority upon request. The operator shall make a copy of the site log book available to the public upon request within a reasonable period;
- B. In the site log book, the operator shall certify, prior to the commencement of construction activities, that the SWPPP meets all Federal, State and local erosion and sediment control requirements and is available to the permitting authority;

- C. The operator shall have a qualified professional conduct an assessment of the site prior to groundbreaking and certify that the appropriate BMPs and erosion and sediment controls described in the SWPPP have been adequately designed, sized and installed to ensure overall preparedness of the site for initiation of groundbreaking activities. The operator shall record the date of initial groundbreaking in the site log book. The operator shall also certify that the site inspections, soil stabilization activities, and maintenance activities required have been satisfied within 48 hours of actually meeting such requirements;
- D. The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis, as well as contact information for obtaining a copy of the SWPPP and a copy of the site inspection log book;

6.1.2 OPTION 2 - CODIFY PROVISIONS OF THE EPA CONSTRUCTION GENERAL PERMIT WITH INSPECTION AND CERTIFICATION

Option 2 would require the permittee to prepare a storm water pollution prevention plan (SWPPP) and implement the erosion and sediment controls contained in the EPA Construction General Permit (CGP). In addition, the permittee would be required to conduct periodic site inspections and provide certifications in a site log book. This option would only apply to sites with 5 or more acres of disturbed land. The specific requirements considered under this option are:

Storm Water Pollution Prevention Plans

- A. A SWPPP or equivalent document such as an erosion and sediment control plan or construction site storm water management plan must be prepared prior to submission of your Notice of Intent and prior to commencement of construction activities. At least one SWPPP must be developed for each construction project covered by your permit and each SWPPP must be prepared in accordance with good engineering practices.
- B. The SWPPP must:
 - A. Identify all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site;
 - B. Describe practices to be used to reduce pollutants in storm water discharges from the construction site; and
- C. Once a definable area has been finally stabilized, you may mark this on your SWPPP and no further SWPPP or inspection requirements apply to that portion of the site (e.g., earth-disturbing activities around one of three buildings in a complex are done and the area is finally stabilized, one mile of a roadway or pipeline project is done and finally stabilized, etc).
- D. You must implement the SWPPP as written from commencement of construction activity until final stabilization is complete.

Pollution Prevention Plan Contents: Site and Activity Description

- A. The SWPPP must identify all operators for the project site, and the areas of the site over which each operator has control.
- B. The SWPPP must describe the nature of the construction activity, including:
 - 1. The function of the project (e.g., low density residential, shopping mall, highway, etc.);
 - 2. The intended sequence and timing of activities that disturb soils at the site;
 - 3. Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas; and
 - 4. A general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the United States within one mile of the site.
- C. The SWPPP must contain a legible site map, showing the entire site, identifying:
 - 1. Direction(s) of storm water flow and approximate slopes anticipated after major grading activities;
 - 2. Areas of soil disturbance and areas that will not be disturbed;
 - 3. Locations of major structural and nonstructural BMPs identified in the SWPPP;
 - 4. Locations where stabilization practices are expected to occur;
 - 5. Locations of off-site material, waste, borrow or equipment storage areas;
 - 6. Locations of all waters of the United States (including wetlands);
 - 7. Locations where storm water discharges to a surface water; and
 - 8. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.
- D. The SWPPP must describe and identify the location and description of any storm water discharge associated with industrial activity other than construction at the site. This includes storm water discharges from dedicated asphalt plants and dedicated concrete plants, that are covered by this permit.

Pollution Prevention Plan Contents: Controls to Reduce Pollutants

- A. The SWPPP must include a description of all pollution control measures (i.e., BMPs) that will be implemented as part of the construction activity to control pollutants in storm water discharges. For each major activity identified in the project description the SWPPP must clearly describe appropriate control measures, the general sequence during the construction process in which the measures will be implemented, and which operator is responsible for the control measure's implementation.
- B. The SWPPP must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where possible and that disturbed portions of the site are stabilized. Use of impervious surfaces for stabilization should be avoided.
- C. The following records must be maintained as part of the SWPPP:
 - 1. Dates when major grading activities occur;
 - 2. Dates when construction activities temporarily or permanently cease on a portion of the site; and
 - 3. Dates when stabilization measures are initiated.
- D. The SWPPP must include a description of structural practices to divert flows from exposed soils, retain/detain flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains must be avoided to the degree practicable.
- E. The SWPPP must include a description of all post-construction storm water management measures that will be installed during the construction process to control pollutants in storm water discharges after construction operations have been completed. Structural measures should be placed on upland soils to the degree practicable. Such measures must be designed and installed in compliance with applicable federal, local, state or tribal requirements.
- F. The SWPPP must describe measures to prevent the discharge of solid materials, including building materials, to waters of the United States, except as authorized by a permit issued under section 404 of the CWA.
- G. The SWPPP must describe measures to minimize, to the extent practicable, off-site vehicle tracking of sediments onto paved surfaces and the generation of dust.
- H. The SWPPP must include a description of construction and waste materials expected to be stored on-site with updates as appropriate. The SWPPP must also include a description of

controls, including storage practices, to minimize exposure of the materials to storm water, and spill prevention and response practices.

- I. The SWPPP must include a description of pollutant sources from areas other than construction (including storm water discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

Non-Storm Water Discharge Management

The SWPPP must identify all sources of non-storm water discharges allowable under your permit, except for flows from fire fighting activities, that are combined with storm water discharges associated with construction activity at the site. Non-storm water discharges should be eliminated or reduced to the extent feasible. The SWPPP must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge. Examples of non-storm water discharges that may be allowable under your permit include:

- A. Fire hydrant flushings;
- B. Waters used to wash vehicles where detergents are not used;
- C. Water used to control dust;
- D. Potable water including uncontaminated water line flushings;
- E. Routine external building wash down that does not use detergents;
- F. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- G. Uncontaminated air conditioning or compressor condensate;
- H. Uncontaminated ground water or spring water;
- I. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
- J. Uncontaminated excavation dewatering;
- K. Landscape irrigation.

Maintenance of Controls

- A. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections identify BMPs that are not operating effectively, maintenance must be performed as soon as possible and before the next storm event whenever practicable to maintain the continued effectiveness of storm water controls.
- B. If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.

- C. Sediment from sediment traps or sedimentation ponds must be removed when design capacity has been reduced by 50 percent.

Applicable State, Tribal, or Local Programs

The SWPPP must be consistent with all applicable federal, state, tribal, or local requirements for soil and erosion control and storm water management, including updates to the SWPPP as necessary to reflect any revisions to applicable federal, state, tribal, or local requirements for soil and erosion control.

Inspections

- A. Inspections must be conducted in accordance with one of the two schedules listed below. You must specify in your SWPPP which schedule you will be following.
 - 1. At least once every 7 calendar days, OR
 - 2. At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
- B. Inspection frequency may be reduced to at least once every month if:
 - 1. The entire site is temporarily stabilized,
 - 2. Runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or the ground is frozen), or
 - 3. Construction is occurring during seasonal arid periods in arid areas and semi-arid areas.
- C. A waiver of the inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following requirements are met:
 - 1. The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month);
 - 2. Land disturbance activities have been suspended; and
 - 3. The beginning and ending dates of the waiver period are documented in the SWPPP.
- D. Inspections must be conducted by qualified personnel (provided by the operator or cooperatively by multiple operators). “Qualified personnel” means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the

effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.

- E. Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Sedimentation and erosion control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- F. Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may limit the access of inspection personnel to the areas described in Subpart 3.10.E above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected on the same frequencies as other construction projects, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described above. The conditions of the controls along each inspected 0.25 mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile segment to either the end of the next 0.25 mile inspected segment, or to the end of the project, whichever occurs first.
- G. For each inspection required above, you must complete an inspection report. At a minimum, the inspection report must include:
 - 1. The inspection date;
 - 2. Names, titles, and qualifications of personnel making the inspection;
 - 3. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
 - 4. Weather information and a description of any discharges occurring at the time of the inspection;
 - 5. Location(s) of discharges of sediment or other pollutants from the site;

6. Location(s) of BMPs that need to be maintained;
 7. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
 8. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
 9. Corrective action required including any changes to the SWPPP necessary and implementation dates.
 10. On a site map, indicate the extent of all disturbed site areas and drainage pathways. Indicate site areas that are expected to undergo initial disturbance or significant site work within the next 14-day period;
 11. Indicate on a site map all areas of the site that have undergone temporary or permanent stabilization;
 12. Indicate all disturbed site areas that have not undergone active site work during the previous 14-day period;
 13. Inspect all sediment control practices and note the approximate degree of sediment accumulation as a percentage of the sediment storage volume (for example 10 percent, 20 percent, 50 percent, etc.). Record all sediment control practices in the site log book that have sediment accumulation of 50 percent or more; and
 14. Inspect all erosion and sediment control BMPs and record all maintenance requirements such as verifying the integrity of barrier or diversion systems (earthen berms or silt fencing) and containment systems (sediment basins and sediment traps). Identify any evidence of rill or gully erosion occurring on slopes and any loss of stabilizing vegetation or seeding/mulching. Document in the site log book any excessive deposition of sediment or ponding water along barrier or diversion systems. Record the depth of sediment within containment structures, any erosion near outlet and overflow structures, and verify the ability of rock filters around perforated riser pipes to pass water.
- H. Prior to filing of the Notice of Termination or the end of permit term, a final site erosion and sediment control inspection shall be conducted by the operator or designated agent. The inspector shall certify that the site has undergone final stabilization using either vegetative or structural stabilization methods and that all temporary erosion and sediment controls (such as silt fencing) not needed for long-term erosion control have been removed.

A record of each inspection and of any actions taken in accordance with this Part must be retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance with the permit

conditions. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the construction project or site is in compliance with the SWPPP and all applicable permit conditions.

Maintaining an Updated Plan

- A. The SWPPP, including the site map, must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP.
- B. The SWPPP must be amended if during inspections or investigations by site staff, or by local, state, tribal or federal officials, it is determined that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.
- C. Based on the results of an inspection, the SWPPP must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.

Management Practices

- A. All control measures must be properly selected, installed, and maintained in accordance with any relevant manufacturer specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the operator must replace or modify the control for site situations as soon as practicable.
- B. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts.
- C. Litter, construction debris, and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.
- D. Except as provided below, stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - 1. Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

2. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the site.
 3. In arid, semiarid, and drought-stricken areas where initiating perennial vegetative stabilization measures is not possible within 14 days after construction activity has temporarily or permanently ceased, final vegetative stabilization measures must be initiated as soon as practicable.
- E. A combination of sediment and erosion control measures are required to achieve maximum pollutant removal.
1. Sediment Basins: For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from the drainage area from a 2-year, 24-hour storm, or equivalent control measures, must be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, must be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location, it is not necessary to include flows from offsite areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. In determining whether installing a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on-site, etc. In any event, the operator must consider public safety, especially as it relates to children, as a design factor for the sediment basin, and alternative sediment controls must be used where site limitations would preclude a safe design.
 2. For drainage locations which serve 10 or more disturbed acres at one time and where a temporary sediment basin or equivalent controls is not attainable, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions).
 3. For drainage locations serving less than 10 acres, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a 2-year, 24-hour storm or 3,600 cubic feet of storage per acre drained is provided.
- F. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so

that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).

Site Log Book/Certification

The operator shall maintain a record of site activities in a site log book, as part of the SWPPP. The site log book shall be maintained as follows:

- A. A copy of the site log book shall be maintained on site and be made available to the permitting authority upon request. The operator shall make a copy of the site log book available to the public upon request within a reasonable period;
- B. In the site log book, the operator shall certify, prior to the commencement of construction activities, that the SWPPP meets all Federal, State and local erosion and sediment control requirements and is available to the permitting authority;
- C. The operator shall have a qualified professional conduct an assessment of the site prior to groundbreaking and certify that the appropriate BMPs and erosion and sediment controls described in the SWPPP have been adequately designed, sized and installed to ensure overall preparedness of the site for initiation of groundbreaking activities. The operator shall record the date of initial groundbreaking in the site log book. The operator shall also certify that the site inspections, soil stabilization activities, and maintenance activities required have been satisfied within 48 hours of actually meeting such requirements;
- D. The operator shall post at the site, in a publicly-accessible location, a summary of the site inspection activities on a monthly basis, as well as contact information for obtaining a copy of the SWPPP and a copy of the site inspection log book;

6.1.3 OPTION 3 - NO REGULATION

EPA also considered an option that would not establish effluent guidelines or any additional requirements for this industry. This was the option selected for this final action.

6.1.4 OPTION 4 - CODIFY PROVISIONS OF THE EPA CONSTRUCTION GENERAL PERMIT

EPA developed a revised regulatory option for consideration for the final action that consists solely of codifying certain provisions of the EPA construction general permit. This option would not contain the inspection and certification provisions of Option 2, but would rather incorporate the inspection provisions contained in the July 2003 EPA construction general permit. This option would only apply to sites with 5 or more acres of disturbed land. The specific requirements considered for this option are:

Storm Water Pollution Prevention Plans

- A. A SWPPP or equivalent document such as an erosion and sediment control plan or construction site storm water management plan must be prepared prior to submission of your Notice of Intent and prior to commencement of construction activities. At least one SWPPP must be developed for each construction project covered by your permit and each SWPPP must be prepared in accordance with good engineering practices.
- B. The SWPPP must:
 - A. Identify all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges from the construction site;
 - B. Describe practices to be used to reduce pollutants in storm water discharges from the construction site.
- C. Once a definable area has been finally stabilized, you may mark this on your SWPPP and no further SWPPP or inspection requirements apply to that portion of the site (e.g., earth-disturbing activities around one of three buildings in a complex are done and the area is finally stabilized, one mile of a roadway or pipeline project is done and finally stabilized, etc).
- D. You must implement the SWPPP as written from commencement of construction activity until final stabilization is complete.

Pollution Prevention Plan Contents: Site and Activity Description

- A. The SWPPP must identify all operators for the project site, and the areas of the site over which each operator has control.
- B. The SWPPP must describe the nature of the construction activity, including:
 - 1. The function of the project (e.g., low density residential, shopping mall, highway, etc.);
 - 2. The intended sequence and timing of activities that disturb soils at the site;
 - 3. Estimates of the total area expected to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas; and
 - 4. A general location map (e.g., USGS quadrangle map, a portion of a city or county map, or other map) with enough detail to identify the location of the construction site and waters of the United States within one mile of the site.
- C. The SWPPP must contain a legible site map, showing the entire site, identifying:

1. Direction(s) of storm water flow and approximate slopes anticipated after major grading activities;
 2. Areas of soil disturbance and areas that will not be disturbed;
 3. Locations of major structural and nonstructural BMPs identified in the SWPPP;
 4. Locations where stabilization practices are expected to occur;
 5. Locations of off-site material, waste, borrow or equipment storage areas;
 6. Locations of all waters of the United States (including wetlands);
 7. Locations where storm water discharges to a surface water; and
 8. Areas where final stabilization has been accomplished and no further construction-phase permit requirements apply.
- D. The SWPPP must describe and identify the location and description of any storm water discharge associated with industrial activity other than construction at the site. This includes storm water discharges from dedicated asphalt plants and dedicated concrete plants, that are covered by this permit.

Pollution Prevention Plan Contents: Controls to Reduce Pollutants

- A. The SWPPP must include a description of all pollution control measures (i.e., BMPs) that will be implemented as part of the construction activity to control pollutants in storm water discharges. For each major activity identified in the project description the SWPPP must clearly describe appropriate control measures, the general sequence during the construction process in which the measures will be implemented, and which operator is responsible for the control measure's implementation.
- B. The SWPPP must include a description of interim and permanent stabilization practices for the site, including a schedule of when the practices will be implemented. Site plans should ensure that existing vegetation is preserved where possible and that disturbed portions of the site are stabilized. Use of impervious surfaces for stabilization should be avoided.
- C. The following records must be maintained as part of the SWPPP:
1. Dates when major grading activities occur;
 2. Dates when construction activities temporarily or permanently cease on a portion of the site; and

3. Dates when stabilization measures are initiated.
- D. The SWPPP must include a description of structural practices to divert flows from exposed soils, retain/detain flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Placement of structural practices in floodplains must be avoided to the degree practicable.
- E. The SWPPP must include a description of all post-construction storm water management measures that will be installed during the construction process to control pollutants in storm water discharges after construction operations have been completed. Structural measures should be placed on upland soils to the degree practicable. Such measures must be designed and installed in compliance with applicable federal, local, state or tribal requirements.
- F. The SWPPP must describe measures to prevent the discharge of solid materials, including building materials, to waters of the United States, except as authorized by a permit issued under section 404 of the CWA.
- G. The SWPPP must describe measures to minimize, to the extent practicable, off-site vehicle tracking of sediments onto paved surfaces and the generation of dust.
- H. The SWPPP must include a description of construction and waste materials expected to be stored on-site with updates as appropriate. The SWPPP must also include a description of controls, including storage practices, to minimize exposure of the materials to storm water, and spill prevention and response practices.
- I. The SWPPP must include a description of pollutant sources from areas other than construction (including storm water discharges from dedicated asphalt plants and dedicated concrete plants), and a description of controls and measures that will be implemented at those sites to minimize pollutant discharges.

Non-Storm Water Discharge Management

The SWPPP must identify all sources of non-storm water discharges allowable under your permit, except for flows from fire fighting activities, that are combined with storm water discharges associated with construction activity at the site. Non-storm water discharges should be eliminated or reduced to the extent feasible. The SWPPP must identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge. Examples of non-storm water discharges that may be allowable under your permit include:

- A. Fire hydrant flushings;
- B. Waters used to wash vehicles where detergents are not used;
- C. Water used to control dust;
- D. Potable water including uncontaminated water line flushings;
- E. Routine external building wash down that does not use detergents;

- F. Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used;
- G. Uncontaminated air conditioning or compressor condensate;
- H. Uncontaminated ground water or spring water;
- I. Foundation or footing drains where flows are not contaminated with process materials such as solvents;
- J. Uncontaminated excavation dewatering;
- K. Landscape irrigation.

Maintenance of Controls

- A. All erosion and sediment control measures and other protective measures identified in the SWPPP must be maintained in effective operating condition. If site inspections identify BMPs that are not operating effectively, maintenance must be performed as soon as possible and before the next storm event whenever practicable to maintain the continued effectiveness of storm water controls.
- B. If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.
- C. Sediment from sediment traps or sedimentation ponds must be removed when design capacity has been reduced by 50 percent.

Applicable State, Tribal, or Local Programs

The SWPPP must be consistent with all applicable federal, state, tribal, or local requirements for soil and erosion control and storm water management, including updates to the SWPPP as necessary to reflect any revisions to applicable federal, state, tribal, or local requirements for soil and erosion control.

Inspections

- A. Inspections must be conducted in accordance with one of the two schedules listed below. You must specify in your SWPPP which schedule you will be following.
 - 1. At least once every 7 calendar days, OR
 - 2. At least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5 inches or greater.
- B. Inspection frequency may be reduced to at least once every month if:

1. The entire site is temporarily stabilized,
 2. Runoff is unlikely due to winter conditions (e.g., site is covered with snow, ice, or the ground is frozen), or
 3. Construction is occurring during seasonal arid periods in arid areas and semi-arid areas.
- C. A waiver of the inspection requirements is available until one month before thawing conditions are expected to result in a discharge if all of the following requirements are met:
1. The project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one month);
 2. Land disturbance activities have been suspended; and
 3. The beginning and ending dates of the waiver period are documented in the SWPPP.
- D. Inspections must be conducted by qualified personnel (provided by the operator or cooperatively by multiple operators). “Qualified personnel” means a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity.
- E. Inspections must include all areas of the site disturbed by construction activity and areas used for storage of materials that are exposed to precipitation. Inspectors must look for evidence of, or the potential for, pollutants entering the storm water conveyance system. Sedimentation and erosion control measures identified in the SWPPP must be observed to ensure proper operation. Discharge locations must be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to waters of the United States, where accessible. Where discharge locations are inaccessible, nearby downstream locations must be inspected to the extent that such inspections are practicable. Locations where vehicles enter or exit the site must be inspected for evidence of off-site sediment tracking.
- F. Utility line installation, pipeline construction, and other examples of long, narrow, linear construction activities may limit the access of inspection personnel to the areas described in Subpart 3.10.E above. Inspection of these areas could require that vehicles compromise temporarily or even permanently stabilized areas, cause additional disturbance of soils, and increase the potential for erosion. In these circumstances, controls must be inspected on the same frequencies as other construction projects, but representative inspections may be performed. For representative inspections, personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described above. The conditions of the controls along each inspected 0.25 mile segment

may be considered as representative of the condition of controls along that reach extending from the end of the 0.25 mile segment to either the end of the next 0.25 mile inspected segment, or to the end of the project, whichever occurs first.

G. For each inspection required above, you must complete an inspection report. At a minimum, the inspection report must include:

1. The inspection date;
2. Names, titles, and qualifications of personnel making the inspection;
3. Weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred;
4. Weather information and a description of any discharges occurring at the time of the inspection;
5. Location(s) of discharges of sediment or other pollutants from the site;
6. Location(s) of BMPs that need to be maintained;
7. Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;
8. Location(s) where additional BMPs are needed that did not exist at the time of inspection; and
9. Corrective action required including any changes to the SWPPP necessary and implementation dates.

A record of each inspection and of any actions taken in accordance with this Part must be retained as part of the SWPPP for at least three years from the date that permit coverage expires or is terminated. The inspection reports must identify any incidents of non-compliance with the permit conditions. Where a report does not identify any incidents of non-compliance, the report must contain a certification that the construction project or site is in compliance with the SWPPP and all applicable permit conditions.

Maintaining an Updated Plan

A. The SWPPP, including the site map, must be amended whenever there is a change in design, construction, operation, or maintenance at the construction site that has or could have a

significant effect on the discharge of pollutants to the waters of the United States that has not been previously addressed in the SWPPP.

- B. The SWPPP must be amended if during inspections or investigations by site staff, or by local, state, tribal or federal officials, it is determined that the SWPPP is ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site.
- C. Based on the results of an inspection, the SWPPP must be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP must be completed within seven (7) calendar days following the inspection. If existing BMPs need to be modified or if additional BMPs are necessary for any reason, implementation must be completed before the next storm event whenever practicable. If implementation before the next storm event is impracticable, the situation must be documented in the SWPPP and alternative BMPs must be implemented as soon as possible.

Management Practices

- A. All control measures must be properly selected, installed, and maintained in accordance with any relevant manufacturer specifications and good engineering practices. If periodic inspections or other information indicates a control has been used inappropriately, or incorrectly, the operator must replace or modify the control for site situations as soon as practicable.
- B. If sediment escapes the construction site, off-site accumulations of sediment must be removed at a frequency sufficient to minimize off-site impacts.
- C. Litter, construction debris, and construction chemicals that could be exposed to storm water must be prevented from becoming a pollutant source in storm water discharges.
- D. Except as provided below, stabilization measures must be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - 1. Where stabilization by the 14th day is precluded by snow cover or frozen ground conditions, stabilization measures must be initiated as soon as practicable.
 - 2. Where construction activity on a portion of the site is temporarily ceased, and earth disturbing activities will be resumed within 14 days, temporary stabilization measures do not have to be initiated on that portion of the site.
 - 3. In arid, semiarid, and drought-stricken areas where initiating perennial vegetative stabilization measures is not possible within 14 days after construction activity has temporarily or permanently ceased, final vegetative stabilization measures must be initiated as soon as practicable.

E. A combination of sediment and erosion control measures are required to achieve maximum pollutant removal.

1. Sediment Basins: For common drainage locations that serve an area with 10 or more acres disturbed at one time, a temporary (or permanent) sediment basin that provides storage for a calculated volume of runoff from the drainage area from a 2-year, 24-hour storm, or equivalent control measures, must be provided where attainable until final stabilization of the site. Where no such calculation has been performed, a temporary (or permanent) sediment basin providing 3,600 cubic feet of storage per acre drained, or equivalent control measures, must be provided where attainable until final stabilization of the site. When computing the number of acres draining into a common location, it is not necessary to include flows from offsite areas and flows from on-site areas that are either undisturbed or have undergone final stabilization where such flows are diverted around both the disturbed area and the sediment basin. In determining whether installing a sediment basin is attainable, the operator may consider factors such as site soils, slope, available area on-site, etc. In any event, the operator must consider public safety, especially as it relates to children, as a design factor for the sediment basin, and alternative sediment controls must be used where site limitations would preclude a safe design.
2. For drainage locations which serve 10 or more disturbed acres at one time and where a temporary sediment basin or equivalent controls is not attainable, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions).
3. For drainage locations serving less than 10 acres, smaller sediment basins and/or sediment traps should be used. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of the construction area unless a sediment basin providing storage for a calculated volume of runoff from a 2-year, 24-hour storm or 3,600 cubic feet of storage per acre drained is provided.

F. Velocity dissipation devices must be placed at discharge locations and along the length of any outfall channel to provide a non-erosive flow velocity from the structure to a water course so that the natural physical and biological characteristics and functions are maintained and protected (e.g., no significant changes in the hydrological regime of the receiving water).